Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte SUNHAS D. BHANDARKAR,
DAVID W. JOHNSON, JR.,
JOHN B. MACCHESNEY,
and
THOMAS E. STOCKERT

_____

Appeal No. 1999-2158
Application No. 08/971,460

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ON BRIEF

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Before WARREN, WALTZ, and DELMENDO, **Administrative Patent Judges**.

WALTZ, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1, 2 and 5 through 11 as amended subsequent to the Final Rejection (see the amendment dated Sep. 22, 1998, Paper No. 15, entered as per

the Advisory

Action dated Oct. 2, 1998, Paper No. 16).[1] Claims 1, 2 and 5 through 11 are the only claims remaining in this application.

According to appellants, the invention is directed to a process of forming a silica sol comprising the steps of forming an initial mixture of silica particles in water and subjecting the mixture to shear-mixing, wherein the improvement comprises adding an alkaline material containing no metal cation to the initial mixture to produce a pH range of 6 to 9 (Brief, page 3). A copy of illustrative claim 1 is reproduced below:

> 1. Process comprising forming a silica sol of substantially unagglomerated silica, the process comprising the steps of forming an initial mixture of silica particles in water and subjecting the mixture to shear-mixing, thereby forming the silica sol,
>
> WHEREIN THE IMPROVEMENT COMPRISES
> including an agent in the initial mixture so that the pH is a value in the range of pH6 to pH9, in which

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[1]Although the examiner states that the amendment dated Sep. 22, 1998, will be entered upon filing of an appeal (Advisory Action, Paper No. 16) and that the amendment of Sep. 22, 1998, "has been entered" (Answer, page 2), this amendment has not been physically entered into the record. Upon return of this application to the jurisdiction of the examiner, this error should be rectified. We have considered the claims as if the amendment of Sep. 22, 1998, had been physically entered.

the agent comprises alkaline material containing no metal cation.

In addition to the admitted prior art, the examiner relies upon the following reference as evidence of obviousness:

Fischer, "Basic Factors in Mechanical Dispersion," *Colloidal Dispersions,* p. 266 (New York, John Wiley & Sons, Inc., 1950).

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over "[a]ppellant's [sic, appellants'] prior art teaching (hereinafter PAT) in view of Fischer." Answer, page 3. We *reverse* the examiner's rejection essentially for the reasons stated in the Brief and the reasons set forth below.

OPINION

The examiner finds that claim 1 on appeal is written in "Jepson form" and thus appellants admit that the invention is "substantially known" (Answer, page 4). The examiner therefore finds that the difference between the admitted "prior art teaching" and the claimed process is the inclusion of an alkaline agent to produce a pH between 6 and 9 (*id.*). The examiner also takes notice that the viscosity of a

colloidal mixture is heavily dependent upon the pH (*id.*). The examiner applies Fischer for the teaching "to increase viscosity to increase mechanical dispersion in colloidal fluids." *Id.,* citing page 266 of Fischer. From these findings, the examiner concludes that it would have been obvious to improve the mechanical dispersion of the prior art process by maximizing the viscosity, as taught by Fischer, and to achieve this increase in viscosity by controlling the pH since such is a well known method (*id.*).

We disagree with the examiner's factual findings taken from Fischer. Although Fischer does teach that a factor to be considered in a comparison of mills includes the "plastic viscosity of the composition" (page 266, line 19), the teaching in Fischer relied upon by the examiner is directed to the "grinding media" and not the composition or mixture to be sheared in the mixer:

> There are three ways in which this situation [the persistence of a few aggregates] can be remedied: (1) use of the ***highest viscosity grinding media*** and the highest concentration of solids in the dispersion that can be processed on a given mill . . . . [Fischer, page 266, lines 36-38, emphasis added.]

Accordingly, we determine no basis for the examiner's finding

that "Fischer teaches on page 266, to increase viscosity to increase mechanical dispersion in colloidal fluids." Answer, page 4. We agree with appellants that Fischer alludes to systems with high viscosity grinding media and not to the claimed process where the initial mixture or composition becomes highly viscous (Brief, page 5). In other words, Fischer is directed to increased viscosity of the grinding media but does not directly relate increased dispersion to increased viscosity of the composition to be sheared (the initial mixture). "Where the legal conclusion [of obviousness] is not supported by facts it cannot stand." *In re Warner,* 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967).

Even assuming *arguendo* that the examiner's findings have support in the prior art, the examiner has failed to point out why the claimed pH range of 6 to 9 would have been obvious in view of the reference evidence. The examiner merely states that "controlling the pH" would have been obvious but gives no explanation as to why the claimed limitation of a pH range of 6 to 9 for the initial mixture would have been obvious or suggested by the applied prior art (Answer, page 4; see the

Brief, page 8).

For the foregoing reasons and those set forth in the Brief, we determine that the examiner has failed to present a *prima facie* case of obviousness based on the reference evidence. Accordingly, the examiner's rejection of claims 1, 2 and 5 through 11 under 35 U.S.C. § 103(a) over the "prior art teaching" in view of Fischer is reversed.

The decision of the examiner is reversed.

REVERSED

CHARLES F. WARREN Administrative Patent Judge	)	
THOMAS A. WALTZ Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ROMULO H. DELMENDO Administrative Patent Judge	)	

TAW:hh

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